



IPW

PATENT  
Docket No. 110.00500104

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Pui et al. )  
Serial No.: ~~10/809,600~~ 10/809,660 )  
Confirmation No.: 7495 )  
Filed: March 25, 2004 )  
For: ELECTROSPRAYING APPARATUS AND METHOD FOR COATING PARTICLES

INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment  
Assistant Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with C.F.R. §§ 1.97 *et. seq.*, the materials enclosed herewith are brought to the attention of the Examiner as possibly being of interest in connection with the above-identified patent application. Per M.P.E.P. § 609, the information cited in the present Information Disclosure Statement shall not be construed to be an admission that the information is, or is considered to be, material to patentability. Consideration of each of the documents listed on the attached 1449 forms is respectfully requested. Pursuant to the provisions of M.P.E.P. §609, Applicants further request that a copy of the 1449 forms, marked as being considered and initialed by the Examiner, be returned with the next Official Communication.

Applicants also wish to bring the Examiner's attention to the following pending U.S. Applications, as well as any documents, Office Actions that may include rejections of similar claims, and any provisional U.S. patent applications referenced in the pending U.S. applications or in their file wrappers. A copy of each of the below-listed pending U.S. Patent Applications is provided herewith.

**Information Disclosure Statement**

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**List of Pending Non-Published U.S. Patent Applications**

Applicant(s)	Application Number	Filing Date	Serial No. of Provisional Application to which listed Application claims priority
PUI et al. (110.01320102)	10/889,341	07/12/04	60/204,238

This application is a divisional of U.S. Patent Application Serial No. 10/162,031, filed June 3, 2002, issued as U.S. Patent No. 6,746,869 which is a continuation of U.S. Patent Application Serial No. 09/577,747, filed May 23, 2000, issued as U.S. Patent No. 6,399,362, which is a divisional of U.S. Patent Application Serial No. 09/092,794, filed June 5, 1998, issued as U.S. Patent No. 6,093,557, which claims benefit of U.S. Provisional Patent Application Serial No. 60/049,444, filed June 12, 1997. In accordance with 37 C.F.R. §1.98(d), copies of documents previously cited by or submitted to the U.S. Patent and Trademark Office in connection with Applicants' prior application(s) listed above, are not included herewith.

It is believed that no fee is due, as this Information Disclosure Statement is filed prior to the receipt of any Action on the merits. However, in the event a fee is due, please charge any fee or credit any overpayment to Account No. 13-4895.



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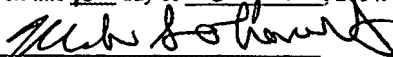
For: ELECTROSPRAYING APPARATUS AND METHOD FOR COATING PARTICLES

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The Examiner is invited to contact Applicants' Representatives at the below-listed telephone number, if they can be of any assistance during prosecution of the present application.

**CERTIFICATE UNDER 37 C.F.R. 1.8:**

The undersigned hereby certifies that this paper is being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Mail Stop Amendment, Assistant Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10<sup>th</sup> day of Sept, 2004.


  
Name: Mark Gebhardt

Respectfully submitted for Pui et al.,  
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Date

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): PUI et al. Group Art Unit: 1762  
Serial No.: 10/809,660 Examiner: Unknown  
Filed: March 25, 2004 Docket No.: 110.00500104  
Confirmation No.: 7495  
Title: ELECTROSPRAYING APPARATUS AND METHOD FOR COATING PARTICLES

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

We are transmitting the following documents along with this Transmittal Sheet (which is submitted in triplicate):

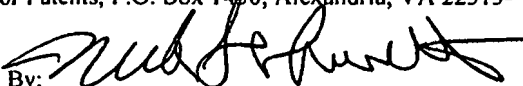
- ☒ An itemized return postcard.  
☐ A Petition for Extension of Time for \_\_ month(s) and a check in the amount of \$\_\_ for the required fee.  
☒ An Information Disclosure Statement (3 pgs); copy of one application with preliminary amendment; 1449 forms (6 pgs); and copies of 47 documents cited on the 1449 forms.  
☐ A check in the amount of \$\_\_, for \_\_.  
☐ A certified copy of a \_\_ application, Serial No. \_\_, filed \_\_\_\_, the right of priority of which is claimed under 35 U.S.C. §119.  
☐ Other:  
☐ Amendment ☐ No Additional fee is required. ☐ The fee has been calculated as shown:

Fee Calculation for Claims Pending After Amendment					
	Pending Claims after Amendment (1)	Claims Paid for Earlier (2)	Number of Additional Claims (1-2)	Cost per Additional Claim	Additional Fees Required
Total Claims				x \$18 =	
Independent Claims				x \$86 =	
One or More New Multiple Dependent Claims Presented? If Yes, Add \$290 Here →					
Total Additional Claim Fees Required					

Please consider this a PETITION FOR EXTENSION OF TIME for a sufficient number of months to enter these papers and please charge any additional fees or credit overpayment to Deposit Account No. 13-4895. Triplicate copies of this sheet are enclosed.

**CERTIFICATE UNDER 37 C.F.R. §1.8:** The undersigned hereby certifies that this Transmittal Letter and the paper(s), as described hereinabove, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 10th day of Sept, 2004.

MUETING, RAASCH & GEBHARDT, P.A.  
Customer Number: 26813

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(LARGE ENTITY TRANSMITTAL UNDER RULE 1.8)

**INFORMATION  
DISCLOSURE  
STATEMENT**

Atty. Docket No.: 110.00500104

Serial No.: 10/809,660

Applicants: Pui et al.

Confirmation No.: 7495

Application Filing Date: March 25, 2004

Group: 1762

Information Disclosure Statement mailed:

September 10, 2004

**U.S. PATENT DOCUMENTS**

Examiner Initial	Copy Enclosed	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		3,521,125	07/21/70	Nelson			
		3,608,823	09/28/71	Buschor			
		3,654,534	04/04/72	Fischer			
		4,002,777	01/11/77	Juvinall et al.			
		4,039,145	08/02/77	Felici et al.			
		4,265,641	05/05/81	Natarajan			
		4,328,940	05/11/82	Malcolm			
		4,414,603	11/08/83	Masuda			
		4,476,515	10/09/84	Coffee			
		4,578,290	03/25/86	Komon et al.			
		4,634,057	01/06/87	Coffee et al.			
		4,659,012	04/21/87	Coffee			
		4,748,043	05/31/88	Seaver et al.			
		4,795,330	01/03/89	Noakes et al.			
		4,846,407	07/11/89	Coffee et al.			
		4,945,050	07/31/90	Sanford et al.			
		5,036,006	07/30/91	Sanford et al.			
		5,044,564	09/03/91	Sickles			
		5,066,587	11/19/91	Jones et al.			
		5,091,205	02/25/92	Fan			
		5,100,792	03/31/92	Sanford et al.			
		5,120,657	06/09/92	McCabe et al.			
		5,141,131	08/25/92	Miller, Jr. et al.			

**EXAMINER****Date Considered**

\*Examiner: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	<b>Applicants:</b> Pui et al.	<b>Confirmation No.:</b> 7495
	<b>Application Filing Date:</b> March 25, 2004	<b>Group:</b> 1762
	<b>Information Disclosure Statement mailed:</b> September 10, 2004	

Examiner Initial	Copy Enclosed	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		5,149,655	09/22/92	McCabe et al.			
		5,179,022	01/12/93	Sanford et al.			
		5,204,253	04/20/93	Sanford et al.			
		5,219,746	06/15/93	Brinegar et al.			
		5,222,663	06/29/93	Noakes et al.			
		5,240,842	08/31/93	Mets			
		5,247,842	09/28/93	Kaufman et al.			
		5,354,556	10/11/94	Sparks et al.			
		5,371,015	12/06/94	Sanford et al.			
		5,433,865	07/18/95	Laurent			
		5,457,041	10/10/95	Ginaven et al.			
		5,475,228	12/12/95	Palathingal			
		5,478,744	12/26/95	Sanford et al.			
		5,506,125	04/09/96	McCabe et al.			
		5,516,670	05/14/96	Kuehnle et al.			
		5,525,510	06/11/96	McCabe et al.			
		5,584,807	12/17/96	McCabe			
		5,621,605	04/15/97	Inaba et al.			
		5,655,517	08/12/97	Coffee			
		5,683,556	11/04/97	Nomura et al.			
		5,685,482	11/11/97	Sickles			
		5,702,754	12/30/97	Zhong			
		5,807,436	09/15/98	Stachelhaus et al.			
		5,813,614	09/29/98	Coffee			

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Examiner Initial	Copy Enclosed	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		5,837,313	11/17/98	Ding et al.			
		5,846,595	12/08/98	Sun et al.			
		5,866,400	02/02/99	Palsson et al.			
		5,873,523	02/23/99	Gomez et al.			
		5,897,911	04/27/99	Loeffler			
		5,915,377	06/29/99	Coffee			
		5,973,904	10/26/99	Pui et al.			
		5,980,972	11/09/99	Ding			
		5,992,244	11/30/99	Pui et al.			
		6,068,199	05/30/00	Coffee			
		6,074,688	06/13/00	Pletcher et al.			
		6,093,557	07/25/00	Pui et al.			
		6,105,571	08/22/00	Coffee			
		6,105,877	08/22/00	Coffee			
		6,120,847	09/19/00	Yang et al.			
		6,143,370	11/07/00	Panagiotou et al.			
		6,145,391	11/14/00	Pui et al.			
		6,093,557	04/25/00	Pui et al.			
		6,251,136	06/26/01	Guruwaiya et al.			
		6,252,129 B1	06/26/01	Coffee			
		6,364,903	04/02/02	Tseng et al.			
		6,368,658	04/09/02	Schwarz et al.			
		6,399,362 B1	06/04/02	Pui et al.			
		6,419,692	07/16/02	Yang et al.			

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Examiner Initial	Copy Enclosed	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
		6,419,745	07/16/02	Burkett et al.			
		6,746,869	06/08/04	Pui et al.			
		6,764,720	07/20/04	Pui et al.			
		2003/0143315A1	07/31/03	Pui et al.			

**FOREIGN PATENT DOCUMENTS**

Examiner Initial	Copy Enclosed	Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	✓	1052695 A	03/18/93	CN (w/Abstract)				
	✓	198 46 656 A1	04/29/99	DE (w/Abstract)				
	✓	199 09 333 A1	11/11/99	DE (w/Abstract)				
	✓	0 234 841 A2	09/02/87	EP				
	✓	0 270 356 A2	12/02/87	EP				
	✓	0 258 016 A1	03/02/88	EP				
	✓	0 258 016 B1	03/02/88	EP				
	✓	0 434 616 A1	06/26/91	EP (w/Abstract)				
	✓	0 434 616 B1	06/26/91	EP				
	✓	0 429 234 A2	05/29/91	EP				
	✓	0 429 234 A3	05/29/91	EP				
	✓	0 429 234 B1	05/29/91	EP				
	✓	6-242273	09/02/94	JP (w/Abstract)				
	✓	91/00915	01/24/91	WO				
	✓	91/07487	05/30/91	WO				
	✓	93/07465	04/15/93	WO				
	✓	98/03267	01/29/98	WO				
	✓	98/56894	12/17/98	WO				

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	✓	99/03517	01/28/99	WO				
	✓	99/30812	06/24/99	WO				
	✓	99/30835	06/24/99	WO				
	✓	99/31019	06/24/99	WO				
	✓	01/087491 A1	11/22/01	WO				
	✓	03/082363 A1	10/09/03	WO				
	✓	04/047882 A2	06/10/04	WO				
	✓	04/047882 A3	06/10/04	WO				

**OTHER DOCUMENTS (Including Authors, Title, Date, Pertinent Papers, etc.)**

Examiner Initial	Copy Enclosed	Document Description
	✓	Adachi et al., "High-efficiency unipolar aerosol charger using a radioactive alpha source," <i>Aerosol Science, Industry Health and Environment</i> , Masuda and Takahashi, eds., Pergamon Press, NY, 1990; 439-441.
	✓	Adachi et al., "Unipolar and Bipolar Diffusion Charging of Ultrafine Aerosol Particles," <i>J. Aerosol Sci.</i> , 1985; 16(2):109-123.
	✓	Büscher et al., "Performance of a unipolar 'square wave' diffusion charger with variable nt-product," <i>J. Aerosol Sci.</i> , 1994; 25(4) 651-663.
	✓	Chen et al., "Design and Evaluation of a Nanometer Aerosol Differential Mobility Analyzer (Nano-DMA)," <i>J. Aerosol Sci.</i> , 1998; 29(5/6):497-509.
	✓	Chen et al., "Electrospraying of Conducting Liquids for Monodisperse Aerosol Generation in the 4 nm to 1.8µm Diameter Range," <i>J. Aerosol Sci.</i> , 1995; 26(6):963-977.
	✓	Chen et al., "Experimental Investigation of Scaling Laws for Electrospraying: Dielectric Constant Effect," <i>Aerosol Science and Technology</i> , 1997; 27(3):367-380.
	✓	Fuchs, "On the Stationary Charge Distribution on Aerosol Particles in a Bipolar Ionic Atmosphere," <i>Geodis:Pura. Appl.</i> , 1963; 56:185-193.
	✓	Ganan-Calvo, "Generation of Steady Liquid Microthreads and Micron-Sized Monodisperse Sprays in Gas Streams," <i>Phys. Rev. Lett.</i> , 1998; 80(2):285-288.

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Examiner Initial	Copy Enclosed	Document Description
	✓	Ganan-Calvo, "New Microfluidic Technologies to Generate Respirable Aerosols for Medical Application," <i>J. of Aerosol Sci.</i> , 1999; 30(Suppl. 1):S541-S542.
	✓	Hoppel et al., "The Nonequilibrium Character of the Aerosol Charge Distribution Produced by Neutralizers," <i>Aerosol Sci. &amp; Technol.</i> , 1990; 12:471-496.
	✓	Liu et al., "On unipolar diffusion charging of aerosol particles in the continuum regime," <i>J. Colloid Interface Sci.</i> , 1977; 58:142-149.
	✓	"Minnesota Nanotechnology Summit: Opportunities and Challenges," Final Program, Mar. 17, 2000, Minneapolis, MN.
	✓	Product Literature, BINKS Electrostatic spray painting equipment, 7 pgs, No Date Provided.
	✓	Pui et al., "Nanometer Particles: A New Frontier For Multidisciplinary Research," <i>J. Aerosol Sci.</i> , 1997; 28(4) 539-544.
	✓	Pui et al., "Unipolar Diffusion Charging Ultrafine Aerosols," <i>Aerosol Sci. Techn.</i> , 1988; 8:173-187.
	✓	Romay et al., "Free electron charging of ultrafine aerosol particles," <i>J. Aerosol Sci.</i> , 1992; 23(7):679-692.
	✓	Romay et al., "On the combination coefficient of positive ions with ultrafine neutral particles in the transition and free-molecule regimes," <i>Aerosol Sci. Techn.</i> , 1992; 17:134-147.
	✓	Romay et al., "Unipolar Diffusion Charging of Aerosol Particles at Low Pressure," <i>Aerosol Sci. Techn.</i> , 1991; 15:60-68.
	✓	Rulison et al., "Scale-up of electrospray atomization using linear arrays of Taylor cones," <i>Rev. of Sci. Instrum.</i> , American Institute of Physics, New York, 1993; 64(3):683-686.
	✓	Songstad et al., "Advances in alternative DNA delivery techniques," <i>Plant Cell, Tissue and Organ Culture</i> , 1995; 40:1-15.
	✓	Wiedensohler et al., "A novel unipolar charger for ultrafine aerosol particles with minimal particles losses," <i>J. Aerosol Sci.</i> , 1994; 25(4):639-650.

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